

COUNTRY Yugoslavia

DATE DISTR. 24 NOV 50

SUBJECT Zletovo Lead and Zinc Mine

NO. OF PAGES 3

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PLACE ACQUIRED [REDACTED]

NO. OF ENCLS. 1 sketch (LISTED BELOW)

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SUPPLEMENT TO [REDACTED]

1. The Zletovo lead and zinc mine is situated on the Stalkovska Reka River, approximately two kilometers southeast of the village of Zletovo, and is connected by a road with the railroad station at Vanca Pirka. The administration offices, separation plant, workshops and the garage are situated at the junction of the Zletovo and Rudare roads.
2. The mine is administered by a director who is subordinate to the Directorate of Colored Metals of the Serbian Republic in Belgrade. Each department is headed by a director, except the technical department, whose head is a chief engineer.
3. The total output of ore in 1949 was 139,000 tons and the planned production for 1950 is 170,000 tons. The present daily output varies between 500 and 550 tons. At this rate, the 1950 norm should be exceeded by about 4,000 tons. Further increase would only be possible by supplying the mine with additional equipment.
4. The processed ore is transported to the railroad station at Vanca Pirka. From there the concentrate of lead is sent to the Trepca plant at Zvecan. Zinc and pyrites are exported mostly to Italy, Germany and Austria.
5. Ore deposits:

a. Quantity

Category A: 1,200,000 tons
Category B: 250,000 tons
Category C: 600,000 tons

b. Metallic content: The average mean content of the ore is as follows:

Lead : 2 percent
Zinc : 6 percent
Silver: 60 grams per ton

The content decreases as the depth increases.

c. The vein was originally formed by the eruption of Trachyte and sediments;

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No Change In Class. ☐

☐ Declassified

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owing to silification, the ore is extremely hard. The sediments consist of Galenite (PbS), Sphalerite (ZnS), Wurzite (PbCuSbS), pyrites, boulangerite, jamesonite, marthite, chalcopyrites, argentite and tetrahedrite.

7. Factors limiting output

- a. Lack of mining equipment such as drills, rails, steel, iron et cetera.
 - b. Lack of manpower.
 - c. Work could be speeded up by using the top slicing method, instead of the cut and fill method used at present.
- 1) The mine was opened by a shaft, from which three cross-cuts radiate. The actual mining of the ore is done in horizontal workings, which descend fifty meters below each other. These are connected by diagonal cuts which run from the shaft to the workings, situated in all sections of the horizontal cuts, and are used for communications and transport.
 - 2) Mining is done from below, by the cut and fill method. The filling is taken from the open cast workings, sent down towards the horizontal workings and distributed by the miners to build up the veins.
 - 3) Ore is loaded by hand into cars which take it to the chutes. Here it is loaded onto trucks, which are pulled towards the shaft by a locomotive. It is here raised to the next diagonal cut, and so to the surface. It is then taken to the bunker, of 1,000 ton capacity, from where it is sent by the overhead cable railway to the separation plant. Here it is crushed, separated, and then sent to the flotation plant, where the lead, zinc and pyrites are extracted.

8. There are no developments planned within the foreseeable future.

9. The mine power station is situated near the Directorate on the Zletovska River. Water supply is constant. The following power units have been installed:

- a. A steam turbine of Germania make of 1,200 CV coupled with an alternator of 750 kilowatts.
- b. A steam engine of 750 CV coupled with an alternator of 500 kilowatts, kept in reserve.

The two generators produce an alternating current of 3,000 volts/50 cycles which is transformed to 1,000 volts. Upon reaching the mine it is reduced to 400 volts for driving the electric motors. The two copper boilers are of Steilrahrkessel manufacture with a capacity of 200 square meters heat surface. Both burn lignite which is apparently imported from the Kosovo mine.

10. Machinery and equipment

- a. Drills: There are 120 to 150 drills, weighing 60 to 90 kilograms each, mounted on columns or on tripods, mostly of Boehler, Sullivan, Ingersoll Rand and Russian manufacture. The majority are in such poor condition that only 40 or 50 are in use. In addition there are some lighter type drills of Flottmann and Holman manufacture.
- b. Hoists: There are about ten electric hoists, of American and Yugoslav manufacture. Near the shaft is an electrically driven winding machine of 600 to 700 CV, operating to a depth of 150 meters.
- c. Transport: There are four Diesel locomotives of 12 to 15 horsepower with a capacity of five tons. All are of Yugoslav origin and well-worn. About 300 small cars of 800 kilograms and 50 tip-cars are used in the

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workings, all in poor condition. Twelve trucks of Skoda, Fiat, Federal and Mann manufacture, plus five or six cars are held by the mine.

- d. Pumps: The pump station is situated in the shaft on the third horizontal working. There are six centrifugal electric pumps of between 500 and 1,000 cubic meters per minute. These are of Yugoslav and Hungarian origin.
 - e. The crushing plant is equipped with two conical breakers and three jaw crushers.
 - f. The flotation plant is equipped with three batteries of flotators, filters and reservoirs.
 - g. Compressors: There are five electric compressors of Magdeburg-USch and Chicago Pneumatic make, with a capacity of 90 cubic meters per minute.
 - h. Workshop: The workshop is well equipped with mechanical and electrical repair equipment, turning lathes, et cetera. There is also a forge and a carpenters' workshop.
11. The total number of mine employees is approximately 4,125, including 325 women. This number is divided as follows:
- | | |
|--------------------------|---------------------------|
| Administration | : 225, including 25 women |
| Miners and mine workers: | 3,500 including 300 women |
| Forced labor | : 400 |
12. The mine and separation plant work three 8-hour shifts per day. On the first shift there are usually 1,800 workers and 850 workers on each of the other two. The remainder of the employees work one or two shifts per day. Salaries are calculated each day and the worker is told each day the amount he earned on the preceding day.
13. The forced laborers are serving sentences of one year, mostly for political reasons. They live in Rudare and are escorted to and from the mine by the Militia.
14. The State Militia in the village of Zletovo is about 15 men strong, while the Mine Militia consists of 35 men. All the mine buildings are strictly guarded by the Mine Militia. In addition, the State Militia patrol the roads, and Mine Militia posts in Zletovo. The railroad is guarded by KNOJ units who also assist the UDB detachment. All workers are issued a pass by the Administrative department of the mine.

15. Legend

- 1 - Power plant
- 2 - Transformer
- 3 - Stores
- 4 - Garage
- 5 - Workshop
- 6 - Flotation plant
- 7 - Directorate office
- 8 - Militia station
- 9 - Crushing plant
- 10 - Bunker
- 11 - Mess
- 12 - Filling shafts
- 13 - Hoist
- 14 - Workshop
- 15 - Bunker
- 16 - Transformer
- 17 - Mine office
- 18 - Bath house
- 19 - Explosives store
- 20 - Ventilator
- 21 - Workers' mess

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